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Notes on birds observed in beech (*Fagus*) forests in the Maoershan Natural Reserve, Guangxi Autonomous Region, China

by François Vuilleumier

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As part of long term research on the evolution of bird faunas in forests of southern beeches (*Nothofagus*) (Vuilleumier 1985, Vuilleumier & Kikkawa 1991), I also visited wet temperate forests in the northern hemisphere, including northern beeches (*Fagus*), for comparative purposes. Thus, between 9 and 11 June 1992 I studied the avifauna living in and around beech (*Fagus*) forests in the Maoershan Natural Reserve Area, Xing'an and Ziyuan Counties, Guangxi Autonomous Region, People's Republic of China. Even though my visit was brief, and unfavourable circumstances (including prolonged travel on very bad roads, and acute respiratory illness) prevented me from spending as much time in the forests as I had originally planned, my notes might be of interest because the avifauna of this forested area of southern China is poorly known and may not have been visited by western ornithologists in the recent past, if at all. The only published reports on the Maoershan Natural Reserve that I am aware of are those of Li (1985, 1986) (which I saw) and Zhang (1979) (which I did not see). I did not find reports dealing with the avifauna of Maoershan or its forests.

Large and relatively undisturbed stands of beeches (*Fagus longipetiolata*), mixed with other tree species, grow along the slopes of the Maoershan Mountain Range in northern Guangxi Autonomous Region, southern China, forming a distinct belt at altitudes from about 1300 to 1700 m. Higher up, other tree species, especially *Symplocos* sp. (Styracaceae), are dominant. The botany of this large forested watershed has been studied by Professor Li Guang-Zhao of the Guangxi Institute of Botany (for general summaries see Li 1985, 1986), who has made beautiful and very complete plant collections in the area, now housed in the herbarium of the Laboratory for Plant Taxonomy of the Guangxi Institute of Botany in Guilin, which I was kindly allowed to study on 8 June 1992. Unfortunately, Professor Li's list of plant taxa for Maoershan Natural Reserve is still unpublished.

In contrast with Maoershan, the Yaoshan (or Dayaoshan, see 1991/92 Hallwag map "China Far East" at 1:6,000,000), an isolated mountain range with its summit at 1979 m, found at 24°00′N, 110°03′E in central Guangxi, about 240 km south of Maoershan, has been well explored ornithologically (see Stresemann 1929a,b, 1930a–c, Yen 1933–34). Unfortunately these reports give no botanical information about the vegetation types in which the montane birds were collected. Mell (1925a,b) described the botany and ornithology of montane forests of three relatively low mountains in Guangdong (Kwangtung) Province, west of Guangxi. The maximum altitude of these three ranges is about 1100 m (Mell 1925b: 163), just below the altitude at which *Fagus* appears at Maoershan. Mell (1925b) mentioned a number of trees that are also present in the montane forests of Maoershan (including the Fagaceae *Castanopsis* and *Lithocarpus*), but not *Fagus*, which is therefore probably absent from his study areas. Thus, unfortunately, Mell's (1925b) important paper cannot be used for direct comparisons with the montane avifauna in the *Fagus* belt at Maoershan.

Description of study area

According to Professor Ma Yiqing (*in litt.*), Maoershan Natural Reserve is one of four major regions where extensive forests of beech (*Fagus* spp.) can still be found today in China. The other three areas are: (1) Fanjinshan Natural Reserve at 27°54′N, 108°36′E in Yinjing County, Guizhou Province, (2) Badagongshan Natural Reserve at 29°18′N, 110°06′E, in Sangzhi County, Hunan Province, and (3) Baba Forest Area at 36°36′N, 106°54′E in Nanjiang County, Sichuan Province. Much of the information below on the Maoershan area is taken from the useful papers by Li (1985, 1986).

The Maoershan Natural Reserve forms a substantial part of the Maoershan Mountain Range which contains 10 peaks above 2000 m elevation and whose summit, at 2142 m, is the highest in Guangxi Autonomous Region. The Natural Reserve is located at 25°48′–25°58′N, 110°20′–110°35′E in Xing'an and Ziyuan Counties, Guangxi Autonomous Region, about 130 km by road NW of Guilin City. The area immediately below the summit is covered by a complex of buildings used by the workers of the television station. During my stay, with good weather, the view westward from the summit extended across broad, shallow, and unforested cultivated valleys to an impressive series of mountain ranges at the border between northern Guangxi and southern Hunan Province, several of which probably reach above 2000 m, and most of which were totally deforested.

According to Li (1986) an access road was constructed and a television relay station was built just under the summit of Maoershan in 1976. Shortly afterward the Guilin District authorities officially declared about 7160 ha of the Maoershan Mountain Range a Natural Reserve. In 1978 the area of the Reserve was enlarged to 15,300 ha. Heavy logging had taken place before 1948 in the lower parts of what is now the Reserve.

The mission of the Reserve is several-fold. First it aims to protect the huge Maoershan watershed, which is very important to the Guilin area, by preserving the forest cover of the slopes and mountain-tops. Secondly the goal is to protect the forest ecosystem, and especially several components of its animal and plant life, thus preserving a large pool of genetic diversity. For example, the Reserve contains several plant species which are rare and endangered in China. A third goal is to promote scientific research on the fauna and flora. A final goal is to educate the people and to encourage them to appreciate the importance of the forest resources of Maoershan.

Botanically, Maoershan is one of the richest and most diversified areas in Guangxi with 1436 species of vascular plants, including 670 species of woody plants. This diversity is due to the fact that the flora is rich in both subtropical and temperate zone elements and also contains some tropical elements (Li 1986). The structure of the tree community at Maoershan is complex. Between 4 and 6 and occasionally up to 8 species of trees can be found in plots as small as 100 m^2 (Li 1986).

Geologically, Maoershan is composed mostly of pre-Devonian granite but also includes sandstones and schists. The Maoershan range was uplifted during the Yanshen Orogeny, between the Jurassic and the Cretaceous (Li 1986).

About 2100 mm of rain fall at Maoershan each year, especially during the rainy season between February and June (Li 1986). During the three days of my visit in early June, however, the weather was dry and sunny, with clear and cool mornings, hot and hazy days, and clear and cool nights. Occasional fogs rolled up from the valleys east of Maoershan toward the crests in the late afternoon of 9 and 10 June. According to Li (1986) the relative humidity of the Maoershan area averages 80%, 9 months out of 12 having heavy cloud cover above 1000 m elevation. The whole region is well watered and has about 45 streams, several waterfalls, and a number of springs (Li 1986).

The average annual temperature at the summit (2142 m) is 7°C (maximum 23°C, minimum −19°C). At 1200 m the average January temperature is 2.9°C, and the average July temperature is 21.5°C (maximum 28.9°C, minimum −15°C). Even though Maoershan is subtropical (Li 1986), frosts occur on average 105 days per year at the summit.

The wide range of climatic conditions, especially temperature, encountered from the bottom areas to the summit of Maoershan has resulted in clear-cut altitudinal zonation of vegetation (Li 1986). The native vegetation (presumably forest) is completely gone from the lower areas where intensive cultivation, mostly rice, is practised on terraces along the valley slopes and in all valley bottoms (at about 600–700 m), where a dense human population lives in numerous small villages, and where traditional southern Chinese life still prevails. Water buffaloes are commonly used in the fields.

Above this lower zone, the mountain slopes are largely or completely deforested up to about 1200 m and covered either with dense, homogeneous, and extensive secondary growth stands of tall bamboos (*Phyllostachys*), or with mixed vegetation including shrubs (e.g. *Rhus* sp.) and small trees (e.g. *Cunninghamia* sp.) as well as bamboos.

Isolated *Fagus longipetiolata* trees start appearing above a narrow belt of deforested grassy slopes, at about 1100 m. Beeches are abundant and conspicuous higher up and form the main component of a distinct altitudinal zone from about 1300 to about 1700 m. Li (1986) calls this zone "deciduous-evergreen broadleaf mixed forest". Beech trees grow on very steep slopes, with an angle I estimated as 20°–50° (30°–40° according to Li 1986). Other trees of the family Fagaceae occurring with *Fagus* to form the canopy include the oaks *Castanopsis* and *Lithocarpus*. The understory, composed of shrubs (especially *Rhododendron* spp.) and bamboo (especially *Indosasa* sp.), is dense, in places even impenetrable. Working along such steep slopes in such dense vegetation was quite difficult, and several times I was obliged to restrict my observations to roadside areas. Within the *Fagus* belt individual beech (and other) trees are usually large and stately, many reaching a height of about 20–30 m. I noticed that many tree trunks and branches were covered with a thick growth of mosses, lichens and other epiphytic vegetation, thus revealing the high moisture content of the atmosphere.

Above 1700 m, *Fagus* disappears, and the *Fagus* belt is replaced by a mixed forest that includes 80% broadleaf trees as well as some evergreen conifers (especially conspicuous

are hemlocks, *Tsuga* sp.). One of the dominant taxa in this vegetation belt, which goes from 1700 to 2000 m, is *Symplocos* sp. Li (1986) calls this forest "evergreen broadleaf and evergreen broadleaf/needle leaf forest". At these higher altitudes, the landscape is different, the slopes less steep, but the forest is dense with a closed canopy and grows on relatively shallow, often waterlogged and boggy soils. This montane area is characterized by high winds and high humidity and many trees show a trend toward dwarfism. Many trees, including gnarled *Tsuga*, are up to 250–300 years old (Li 1986).

The highest vegetation zone, found from mountain ridges at 2000 m to the summit, is a dense brush and stunted forest. It includes many of the same species found at the lower elevational belt, but they show a characteristic dwarf growth form (Li 1985, 1986).

Itinerary

9 June 1992. In spite of diligent attempts to leave Guilin early, I was not able to do so until 12.00 because of delays in the necessary paperwork prior to field work. The very bad conditions of roads in and immediately around Guilin and in the approaches to Maoershan made the approximately 130 km drive an interminable $6\frac{1}{2}$ hours. Thus only brief stops could be made in the flat lowlands north of Guilin, in heavily cultivated valleys at about 600–800 m, along deforested mountain slopes at 1000 m, in the *Fagus* belt at 1500 m, and below the TV station at 2200 m.

10 June 1992. I worked from 06.30 to 12.30 at about 1400–1600 m in *Fagus* forests, then from 13.00 to 15.30 and from 17.00 to 19.30 at 1750–1950 m above the *Fagus* belt, in ridgetop forest dominated by *Symplocos* sp.

11 June 1992. I worked from 06.30 to 07.30 at 1900 m in *Symplocos* forest above the *Fagus* belt, then from 08.00 to 10.00 at about 1300 m in *Fagus* forests. Occasional stops were made lower down (about 800–1000 m) and in cultivated valleys (about 600 m) in the late morning. I returned to Guilin by late afternoon, again on terrible roads.

Because of the fact that the TV station hostel at about 2200 m had a locked gate at night, it was not possible to go out and work in *Fagus* or *Symplocos* forests at night. Hence my observations do not include any nocturnal species.

Annotated list species

Sequence and nomenclature follow, for convenience, Meyer de Schauensee (1984). Birds marked with * were seen in the *Fagus* belt.

***EURASIAN HONEY BUZZARD** *Pernis ptilorhyncus* (?)

Two birds flying over steep, deforested slopes at about 1200 m on 9 June at the lower edge of the *Fagus* belt, in mixed vegetation consisting also of bamboos (*Phyllostachys pubescens*), scrub (*Rhus chinensis*), and low trees (*Cunninghamia lanceolata*). Recorded from Yunnan and Sichuan (Meyer de Schauensee 1984) but not Guangxi. However, Yen (1933: 234) cited a November specimen from Guangxi, and Cheng (1987) mentioned the species as a migrant from Guangxi. The two birds were very similar in plumage, with dark blackish-brown underparts, dark wing coverts, pale primaries and secondaries, tail long and rather uniformly barred, with central tail feathers missing. I presume these two birds were in juvenal plumage, and had recently fledged. Their calls were high-pitched whistles.

CRESTED SERPENT EAGLE *Spilornis cheela* (?)
One dark brown bird, probably immature, flying low over *Symplocos*-dominated forested ridge at about 1800 m on 9 June. Yen (1933: 234) reported this species as resident at Yaoshan.

***ROCK PIGEON** *Columba livia*
Uncommon in villages at 600–700 m in bottoms of densely cultivated mountain valleys. Not cited by Yen (1933: 228–229) in his list of Columbidae from Yaoshan and Guangxi.

***LARGE HAWK CUCKOO** *Cuculus sparverioides*
Heard in *Fagus* forest at about 1500 m, 10 June 1992, between 07.00 and 09.00. Not common. Yen (1933: 616) stated that in Guangxi this species was only found in Yaoshan.

***ORIENTAL CUCKOO** *Cuculus saturatus*
Commonly heard in *Fagus* forest between about 1400 and 1600 m, 10 June 1992. Yen (1933: 615) found the species in April and May at Yaoshan.

***LESSER CUCKOO** *Cuculus poliocephalus*
Commonly heard in *Fagus* forest at about 1450–1500 m, 10 June 1992, between 07.00 and 10.00.

***PLAINTIVE CUCKOO** *Cacomantis merulinus* (?)
Probably heard in *Fagus* forest at about 1300 m, 11 June 1992, at about 08.00. Yen (1933: 617) stated that this species never visited the Yaoshan.

***GREY-HEADED WOODPECKER** *Picus canus*
One of two birds in relatively dense *Fagus* forest on steep slopes at about 1500 m, 10 June 1992. The birds were foraging on tree-trunks about half way up 25 m tall beech trees. Yen (1933: 621) stated that this sedentary species was very common at Yaoshan. According to Cheng (1987), it lives in "open evergreen forest mixed with bamboo in the south."

***GREY-CAPPED WOODPECKER** *Picoides canicapillus*
Several birds foraging in the middle stratum of *Fagus*-dominated forest between about 1400 and 1600 m, 10 June 1992.

BARN SWALLOW *Hirundo rustica*
Common in mountain valleys and along deforested valley slopes from about 600 to about 1300 m, 9, 10 and 11 June 1992.

RED-RUMPED SWALLOW *Hirundo daurica*
Common in villages at about 600–800 m in mountain valleys, 9 and 11 June 1992.

ASIAN HOUSE MARTIN *Delichon dasypus*
A colony of about 20 pairs had active nests under the eaves of one of the buildings of the TV station below the summit of Maoershan at about 2300 m on 10 and 11 June 1992. It was not seen lower down. Yen (1933:

756–757) stated that this species was sedentary at Yaoshan, found only above 1500 m in rocky areas.

***GREY WAGTAIL** *Motacilla cinerea*

One bird along the road in the *Fagus* belt area at about 1700 m, 10 June 1992. Cheng (1987) does not cite this species as breeding in Guangxi. Called "winter visitor" by Stresemann (1930a) at Yaoshan. Yen (1934: 495) listed specimens from 21 April 1931 and 8 May 1929 from Yaoshan, commenting that "some individuals have been observed and obtained in the summer, which proves that, among the numerous migrants, some remain to breed".

WHITE WAGTAIL *Motacilla alba*

Commonly found along rocky streams from about 600 to about 1000 m in cultivated mountain valleys, 9 and 11 June 1992.

UPLAND PIPIT *Anthus sylvanus* (?)

One bird on a steep, grass-covered slope along the roadside at about 1000 m, 11 June 1992. Cheng (1987) cited this species from Yaoshan. Yen (1934: 497) noted that it was "sedentary, but rather rare at Yaoshan", and that "It was found only above 1000 meters altitude, in large forests".

BLACK-WINGED CUCKOO-SHRIKE *Coracina melaschista* (?)

Several birds at 1800–2000 m in tree-tops of ridgetop forest dominated by *Symplocos* on 9 and 10 June. Yen (1934: 304) noted that this species was "very common in the plains of Guanxi and at Yaoshan during the warm season".

***SWINHOE'S MINIVET** *Pericrocotus cantonensis*

One bird in *Fagus* forest at about 1500 m on 10 June. Although collected 14 April at Yaoshan, Stresemann (1930c) believed this species to be a winter visitor there. But Yen (1934: 306) stated that it was "common in March, April, May, and early June".

***GREY-CHINNED MINIVET** *Pericrocotus solarius*

One male at about 1300 m in *Fagus* forest on 11 June, perched high up on beech trees in relatively open forest. Cheng (1987) mentioned this species from Yaoshan. Stresemann (1929a) and Yen (1934: 305) both cited it from Yaoshan, where it was very common according to Yen.

***SCARLET MINIVET** *Pericrocotus flammeus*

Several birds (males and females) in *Fagus* forest at about 1400–1500 m on 10 June, usually perched high up on tall beech trees. This species is cited from Yaoshan by Cheng (1987). Yen (1934: 305) found it sedentary, and "rather common at Yaoshan from the base of the mountain to an altitude of about 1500 meters".

COLLARED FINCH-BILLED BULBUL *Spizixos semitorques*

One or two birds singing from the top of 3–4 m tall shrubs in riverine vegetation at 600 m in a cultivated mountain valley, 11 June. "Rather rare at Yaoshan" according to Yen (1934: 303).

LIGHT-VENTED BULBUL *Pycnonotus sinensis*

Several seen in riverine bushes along a valley floor at about 600 m, 11 June. Mentioned from Yaoshan by Cheng (1987).

***BLACK BULBUL** *Hypsipetes madagascariensis*

One white-headed bird flying in the canopy of *Fagus* forest at about 1300 m, 11 June. According to Yen (1934: 298) this species is sedentary at Yaoshan, where it is found higher up in summer than in winter.

ORANGE-BELLIED LEAFBIRD *Chloropsis hardwickii*

One bird foraging under the canopy of *Symplocos*-dominated vegetation at about 2000 m, 10 June 1992. Listed from "Yaoshan Mt. and southwestern part" of Guangxi by Cheng (1987). "Sedentary and common at Yaoshan" at about 1000 m, according to Yen (1934: 297).

PLUMBEOUS REDSTART *Rhyacornis fuliginosus*

One pair in riverbed area, 600 m, mountain valley, 11 June.

GREY BUSHCHAT *Saxicola ferrea*

One or two singing males, 9 June 1992, open area with buildings, some abandoned, and miscellaneous scrubby growth, about 1100 m. A tall TV relay antenna was a favourite song perch. "Sedentary and common at Yaoshan" (Yen 1933: 767).

CHESTNUT-BELLIED ROCK THRUSH *Monticola rufiventris*

One immature male in the treetops of *Symplocos*-dominated vegetation at about 2000 m, 10 June 1992. Dark blue wings and tail (which was moved up and then down) were very conspicuous. Cheng (1987) cited the species from Yaoshan. Yen (1933: 772–773) stated that it is sedentary at Yaoshan, found mostly above 1500 m. "Contrarily to most of its congeners, which live among rocks rather than in trees [this species]. . .is quite arboreal and goes to the ground only to search for insects" (Yen 1934: 773).

GREY-WINGED BLACKBIRD *Turdus boulboul*

Common in *Symplocos*-dominated forest at 1800–2000 m below the TV station, 9–11 June, especially active and singing in the early morning and late afternoon. The song, rich and melodious, is quite reminiscent of that of the common Blackbird *T. merula*. Ali (1977) called the song "rich, fluty, far-carrying: of remarkable variety and mellowness and perhaps one of our finest bird songs." Cheng (1987) cited this species as "rare" from Yaoshan (subspecies *yaoschanensis*). Yen (1933: 773), who had earlier described *T. boulboul yaoschanensis*, stated that it has never been found below 700 m, and lives in woods, where it searches for its food on the leaf litter.

***STREAK-BREASTED SCIMITAR BABBLER** *Pomatorhinus ruficollis*

At least 2 birds foraging low down in *Fagus* forest undergrowth at about 1300 m, 11 June. Calls are loud and sharp *ticks*. The bill appeared all black, whereas it is usually depicted pale (e.g. Etchécopar & Hüe

1983, pl. 256). Mell (1925a) stated that this species was a characteristic bird of dense undergrowth of tropical rainforest in Guangdong (Kwangtung). At Yaoshan, listed from 1000 to 3000 feet by Stresemann (1929a), and from the bottom to a very high altitude by Yen (1934: 30).

***PYGMY WREN BABBLER** *Pnoepyga pusilla*

One bird at about 1500 m in the undergrowth of *Fagus* forest on 10 June. Constantly flicks wings open and shut, and emits sharp *tsik* calls. Cited from Yaoshan by Cheng (1987), where it is sedentary (Yen 1933: 788).

HWAMEI *Garrulax canorus*

Seen only once, in second-growth grassy and scrubby roadside habitat below the *Fagus* belt at about 1000 m, 11 June.

RED-TAILED LAUGHING-THRUSH *Garrulax milnei*

Seen on two occasions in *Symplocos*-dominated ridgetop forest at 1800–2000 m on 10 June: first an isolated bird and then two individuals together. They moved from tree to tree in the subcanopy, hopping on trunks and branches, and foraging among leaves. Yen (1934: 25) stated that it fed on the ground. Red wings and tail are extremely conspicuous against the dark green foliage. Cited from Yaoshan and Longsheng by Cheng (1987). Longsheng is located southwest of the Maoershan Summit at 25°48′N, 109°57′E on the 1:6,000,000 map "China Far East" published by Hallwag 1991/1992 edition. Stresemann (1930b) described the population from Yaoshan as a separate subspecies, *sinianum*, which Cheng (1987) also cites from Guizhou. At Yaoshan this species is never found below 1000 m (Yen 1934: 25).

***RED-BILLED LEIOTHRIX** *Leiothrix lutea*

Quite common from about 1400 m to nearly 2000 m, in *Fagus*-dominated forest on steep slopes and in *Symplocos*-dominated ridgetop forest. In both types of vegetation it was found mostly in the undergrowth (shrubs, bamboos) and was often observed in mixed flocks (see Yen 1934: 41). Many singers were heard. The song, rich and varied, is a characteristic sound of the Maoershan forests. From 1000–4000 feet at Yaoshan (Stresemann 1929a).

***BLUE-WINGED SIVA** *Minla cyanuroptera*

Common from about 1500 m to nearly 2000 m, usually isolated birds, or 2–3 birds together, often in mixed flocks, in the undergrowth of both *Fagus*- and *Symplocos*-dominated forests. This species seems especially fond of bamboos, where it actively gleans for prey among bamboo leaves. From "Yaoshan Mt., and southwestern part" of Guangxi, according to Cheng (1987). Not listed from Yaoshan by Stresemann or Yen, but Hachisuka (1941) described *M. cyanuroptera yaoshanica*, on the basis of an unsexed adult "most probably [from] Yaoshan". According to Hachisuka this was the first record from southern China.

***RED-TAILED SIVA** *Minla ignotincta*

Slightly less common than *M. cyanuroptera*, and often found in the same mixed flocks, from about 1500 to 2000 m in both *Fagus*- and

Symplocos-dominated forests. Unlike *M. cyanuroptera*, however, *M. ignotincta* foraged by climbing (hopping?) on moss-covered trunks and branches rather than in bamboos and by searching the dense epiphytic vegetation. These observations do not match those of Ali (1977), who wrote that *M. ignotincta* feeds "tit-like in high canopy foliage", and that the habits of *M. cyanuroptera* were like those of *M. ignotincta*. Similarly, my observations do not agree with Etchécopar & Hüe (1983), who wrote that *M. ignotincta* shows a "marked preference for trees and especially high branches near the treetops". Yen (1934: 42) found *M. ignotincta* common at Yaoshan between 1000 and 2000 m, where it "flies from foliage to foliage, from branch to branch, searching for its food, composed especially of insects". In Guangxi, it has been reported in the "eastern part—Yaoshan Mt., northeastern part—Longsheng" (Cheng 1987). Stresemann (1929a) described the Yaoshan population as a new subspecies, *sini*.

***GOLDEN-BREASTED FULVETTA** *Alcippe chrysotis*

Seen on two occasions on 10 June: (1) two or three birds in a mixed flock with *Minla cyanuroptera, M. ignotincta, Alcippe cinereiceps, Culicicapa ceylonensis* and *Leiothrix lutea* at about 1600 m at the upper edge of *Fagus* forest; and (2) one bird with *Phylloscopus reguloides* at 1900 m in *Symplocos*-dominated forest. Actively forages, tit-like, in bamboo undergrowth. Cheng (1987) cites this species from the "northwestern part" of Guangxi. Not listed by Stresemann or Yen from Yaoshan.

***STREAK-THROATED FULVETTA** *Alcippe cinereiceps*

Common from about 1400 m to the summit at 2142 m, in *Fagus*-dominated forest, *Symplocos*-dominated forest, and in the dense, stunted vegetation growing on the summit of the Maoershan ridge, composed of thickets of bamboos, *Ilex* sp. and *Rhododendron* sp. on 9, 10 and 11 June. Several times in mixed flocks. Several birds that I observed at close range had white irides. This species was not cited from Guangxi by Cheng (1987). The birds I saw looked somewhat intermediate between specimens of *guttaticollis* from Fukien and 4 specimens of *tonkinensis* from Tonkin collected on 17 and 19 November and 14 December 1929 and kept in the American Museum of Natural History collection. Could Tonkin birds be migrants from southern China? King *et al.* (1975) stated that *Alcippe cinereiceps* is "resident above 6000 ft." in southeast Asia. Ali (1977) mentioned only vertical movements in the eastern Himalayas.

***BLACK-CHINNED YUHINA** *Yuhina nigrimenta* (?)

Two to three birds at about 1450 m in bamboo undergrowth of *Fagus*-dominated forest, 10 June. "Sedentary and common" at Yaoshan (Yen 1934: 39).

***VINOUS-THROATED PARROTBILL** *Paradoxornis webbianus*

Several at about 1100 m in dense roadside scrub, 9 June. Two at about 1550 m in a clearing with brush and reeds in *Fagus*-dominated forest, 10 June. Several in riverine bushes at 600 m in a mountain

valley, 11 June. In all three areas, these birds were actively foraging in the lower part of the vegetation, usually calling loudly but remaining out of sight. At Yaoshan, sedentary and from the foothills to about 1500 m (Yen 1934: 489).

***BROWN-FLANKED BUSH WARBLER** *Cettia fortipes*

Common in dense bamboo-rhododendron undergrowth of *Fagus*-dominated forest from about 1400 to 1600 m, 10 June, and up to *Symplocos*-dominated forest on ridgetops at 1800–1900 m, 10–11 June. The loud song, reminiscent of that of some Australian *Pachycephala*, consists of one long, drawn-out, high-pitched whistle, followed by an explosive and sonorous double syllable: *theeeeeeee—thithiu*! The descriptions in Fleming *et al.* (1976), Ali (1977) and Inskipp & Inskipp (1985) are quite good. "Common at Yaoshan" (Yen 1933: 784).

YELLOWISH-BELLIED BUSH WARBLER *Cettia acanthizoides*

Heard commonly in the late evenings of 9 and 10 June and the early morning of 11 June in *Symplocos*-dominated ridge-crest forest at 1800–2000 m, and in dense summit scrub at 2300–2400 m. This species is not listed from Yaoshan by Stresemann or Yen, and is not reported from Guangxi by Meyer de Schauensee (1984) or Cheng (1987). The song is well described by Fleming *et al.* (1976), Desfayes in King *et al.* (1975), Ali (1977) and Inskipp & Inskipp (1985). It consists of a series of 4–6 slow, deliberate, very high-pitched whistles, followed by a series of 5–7 rich, lower-pitched, and almost trill-like fluted whistles. The whole song is quite loud, carries far, and may last up to about 30 seconds or longer.

***BLUNT-WINGED WARBLER** *Acrocephalus concinens*

One singer at 1550 m in a clearing of *Fagus*-dominated forest with dense reeds and shrubs, 10 June. Mentioned as breeding in Guangxi by Cheng (1987). Yen (1933: 779) listed 1 adult male collected 24 June at Yaoshan, stating that "according to the collecting date of my specimen, this bird also breeds in Guangxi".

***LEMON-RUMPED WARBLER** *Phylloscopus proregulus* (?)

One bird seen at about 1500 m in *Fagus*-dominated forest, 11 June. This species does not breed in Guangxi (Cheng 1987). Stresemann (1930a) mentioned a specimen from December. Yen (1933: 782) stated that it was rather common in winter at Yaoshan.

BLYTH'S LEAF WARBLER *Phylloscopus reguloides*

Common between 1900 and 2200 m in *Symplocos*-dominated ridgetop forest, where it forages in dense undergrowth. Seen in mixed flocks. "Found in all seasons at Yaoshan in flocks in forests. It lives in the summer at rather high altitudes and goes lower down in winter, to the foot of the mountain" (Yen 1933: 783).

***SULPHUR-BREASTED WARBLER** *Phylloscopus ricketti*

One bird at about 1700 m at the upper limit of the *Fagus* belt, 10 June. Not a member of a mixed flock. "Found at Yaoshan from April to June" (Yen 1933: 784).

***GOLDEN-SPECTACLED WARBLER** *Seicercus burkii*

At least one on 10 June at about 1450 m in the undergrowth of *Fagus*-dominated forest. Cited from Yaoshan by Chen (1987). Found at Yaoshan from 1000 to 2000 m (Yen 1933: 785).

***CHESTNUT-CROWNED WARBLER** *Seicercus castaneiceps*

One seen at about 1450 m in the understory of *Fagus*-dominated forest, and one at about 1750 m just above the *Fagus* belt, 10 June. Nervous, flicks wings; alarm calls are sharp trills. Forages by gleaning in the foliage. Found at rather high altitudes at Yaoshan (Yen 1933: 785).

***SMALL NILTAVA** *Niltava macgrigoriae*

Only observed once, a male singing from a perch about 1.5 m above the ground in dark and dense shrubby undergrowth of *Fagus*-dominated forest at about 1400 m, 10 June. The song is a series of thin and variably high pitched squeaky whistles (see Ali 1977), emitted with the bill wide open. Call notes are a series of harsh grating sounds that can be rendered by *krr-krrr-krrr*. Cited from Yaoshan as resident by Cheng (1987). Yen (1933: 765) had written that in Guangxi this species was found only at Yaoshan, where it is sedentary and common.

VERDITER FLYCATCHER *Muscicapa thalassina*

One observation, of a singing male, at about 1950 m in *Symplocos*-dominated ridgetop forest on 10 June. The bird sang from exposed dead branches in the treetops, frequently returning to the same perch. The song consists of a series of high-pitched sounds emitted with the bill wide open, not unlike the song of *Niltava macgrigoriae*, but more varied. Ali (1977) compared the song of *M. thalassina* to that of *Zosterops*. Probably sedentary at Yaoshan (Yen 1933: 763).

***GREY-HEADED FLYCATCHER** *Culicicapa ceylonensis*

One bird on 10 June in a mixed flock at about 1600 m near the upper level of the *Fagus*-dominated belt foraging in the middle stratum of the forest and in undergrowth. Other species in the flock included *Alcippe chrysotis, Minla cyanuroptera, Minla ignotincta, Alcippe cinereiceps* and *Leiothrix lutea*. Cited from Yaoshan by Cheng (1987). Stresemann (1930c) wondered whether this species was a winter visitor to Yaoshan, but Yen (1933: 765) listed specimens from May and June.

***GREEN-BACKED TIT** *Parus monticolus*

Two birds at about 1500 m in *Fagus*-dominated forest, 10 June. Foraged at medium to high levels in trees and shrubs, calling regularly. The voice sounded similar to that of *Parus major*. Not cited from Guangxi by Cheng (1987); not cited from Yaoshan by Stresemann or Yen.

***YELLOW-CHEEKED TIT** *Parus spilonotus*

Seen at about 1900 m in ridgetop vegetation dominated by *Symplocos*, 10 June, and in *Fagus*-dominated forest at 1300 m on 11 June. At the latter place a pair of birds were building a nest, bringing material to a cavity near the top of a tall, isolated roadside *Fagus* snag. Calls a

Parus-like *tchēē*. Cited from Yaoshan by Cheng (1987). "Resides in forests of Yaoshan from 500 to 2000 meters altitude" (Yen 1934: 315). Sedentary but shows altitudinal movements.

YELLOW-BROWED TIT *Sylviparus modestus*

Two birds in the understory of ridgetop vegetation dominated by *Symplocos* at about 1900 m, 10 June. This species was not reported from Guangxi Province by Etchécopar & Hüe (1983), Meyer de Schauensee (1984) or Cheng (1987). Not cited from Yaoshan by Stresemann or Yen. My observations thus appears to fill a distributional gap between Yunnan and Guangdong.

MRS GOULD'S SUNBIRD *Aethopyga gouldiae* (?)

One bird in *Symplocos*-dominated ridgetop forest at about 1850 m, 11 June. Collected 23 May 1929 at Yaoshan (Stresemann 1930c) and supposed to breed. Common there above 1000 m according to Yen (1934: 492) and sedentary.

JAPANESE WHITE-EYE *Zosterops japonica*

Seen in mountain valleys with intensive cultivation at 600–800 m on 9 and 11 June. One nest was being built on 11 June in the crown of a 10 m tall, isolated tree along a torrent in a village at 600 m.

WHITE-RUMPED MUNIA *Lonchura striata*

Several in brushy riverine vegetation at 600 m on 11 June.

EURASIAN TREE SPARROW *Passer montanus*

Seen only in villages in mountain valleys at 600–800 m, 9 and 11 June. Found only below 500 m at Yaoshan according to Yen (1934: 501).

RED-BILLED MAGPIE *Urocissa erythrorhyncha*

Uncommon in dense shrubbery along rivers in the bottoms of mountain valleys at 600–800 m, 9 and 11 June. Interestingly Yen (1934: 505) wrote that this species was rare in lowlands but very abundant on wooded hills and high mountains at Yaoshan.

EURASIAN MAGPIE *Pica pica*

Two birds at 600 m in dense riverine vegetation, 11 June, were the only ones seen in the Maoershan area. Yen (1934: 505) wrote that the Magpie was "sedentary and very common in all regions of Guangxi" and that "At Yaoshan we found it at the foot of the mountain, but very rarely above 1000 m altitude."

Beech forest species

Unfortunately a total of only about 9 hours could be spent in beech (*Fagus*) forests (1 hour in late afternoon on 9 June; 6 hours in the morning on 10 June; and 2 hours in the morning on 11 June). Clearly much more time would be necessary to obtain a representative list of the species of birds occurring in such diverse forests. Nevertheless, in view of the apparent lack of any published list of birds in any *Fagus* forest in China, a few comments may be useful here.

Of the 58 species identified (some with "?") in the Maoershan area, only 33 (57%) were seen in the *Fagus* belt (marked with an * in the annotated list). I did not see (or hear) birds from several families that I expected in this area, including Phasianidae, Columbidae, Apodidae, Capitonidae, Trogonidae, Pittidae, Oriolidae, Dicruridae, Sturnidae and Emberizidae.

Generally speaking, I found bird density to be low in *Fagus* forests from 1300 to 1600 m. The birds seen or heard most commonly belong to the Cuculidae (especially *Cuculus poliocephalus*), Timaliidae (especially *Leiothrix lutea, Minla cyanuroptera, M. ignotincta, Alcippe chrysotis* and *A. cinereiceps*), Sylviidae (*Cettia fortipes*), and Paridae (*Parus monticolus, P. spilonotus*). The four commonest species, in decreasing order of relative abundance, were (1) *Leiothrix lutea* (seen or heard during every observation period), (2) *Cettia fortipes* (locally common in dense undergrowth), (3) *Minla cyanuroptera* (present in many patches of bamboo), and (4) *Minla ignotincta* (seen several times on tree trunks and branches).

Bird density appeared to be greater in the *Symplocos*-dominated forests on smooth slopes and ridgetops at 1800–2000 m than in the *Fagus*-dominated forests on steep slopes at lower elevations, although only 20 species (34% of total) were noted in *Symplocos* forests. Also, different species occurred higher up, including *Chloropsis hardwickii, Musicapa thalassina, Phylloscopus reguloides* (common), *Garrulax milnei, Turdus boulboul* (common), *Monticola rufiventris* and *Sylviparus modestus*. Note, however, that 7 species (12% of total) were observed in both *Fagus* and *Symplocos* forests. Of these, several were those I found to be the commonest in *Fagus: Leiothrix lutea, Minla cyanuroptera, Alcippe cinereiceps, Cettia fortipes* and *Parus spilonotus*.

To what extent the altitudinal zonation and greater density at higher altitudes reflect biological reality is impossible to say with such a small sample size. *Symplocos* forests did seem to be less disturbed than *Fagus* forests, where I noticed a number of artificial (second-growth) clearings. Perhaps the higher-elevation *Symplocos* forests of the Maoershan Natural Reserve (except the area immediately around and below the TV station) are better protected from human activities than the lower *Fagus* forests. Clearly, logging extends (or extended) to the lower altitudinal range of *Fagus*. Isolated small stands, isolated trees, and snags are evidence that the lower part of the *Fagus* belt is vulnerable to human destruction.

In his paper on the montane forest (500–1100 m) avifauna of Guangdong, Mell (1925b) discussed ground foragers, undergrowth skulkers, tree foragers, canopy foragers, and summit "hunters". These guilds include some of the birds I saw at Maoershan. For instance *Cettia fortipes, Pomatorhinus ruficollis* and *Leiothrix lutea* were birds of the understory in both areas. More detailed comparisons are precluded, however, because unfortunately Mell (1925a) did not give complete lists of all birds he allotted to each foraging category, nor did he always list them by Latin names.

The fauna I sampled in beech forests of northern Guangxi resembles the fauna that is found in subtropical forests of the Himalayas, farther

west in Asia, with its minivets, numerous babblers, and characteristic mixed flocks. Some species are clearly Himalayan, reaching in Guangxi their easternmost limit, whereas others (e.g. *Garrulax milnei*) are more localized to southern China, Indochina and Burma.

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Species status of *Geotrygon carrikeri*

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From collections made by M. A. Carriker, Jr., Wetmore (1941) described two new taxa of birds from the Los Tuxtlas region of southern Veracruz, Mexico. These taxa were a large form related to the sabrewing hummingbird *Campylopterus curvipennis* and a form related to the quail-dove *Geotrygon lawrencii* but disjunct from the remainder of the species' range by more than 1500 km. Wetmore described both as new subspecies.

Although the hummingbird has been studied in detail (R. C. Banks, pers. comm.) and elevated to species status (*Campylopterus excellens*; A.O.U. 1983), the quail-dove has remained in obscurity, with no reexamination of its distinctiveness (Goodwin 1977). On a recent visit to the U.S. National Museum of Natural History (USNM), I had the opportunity to compare the holotype and two other specimens of Wetmore's *G. l. carrikeri* with specimens from other populations of *G. lawrencii*. Being impressed with the distinctiveness of *carrikeri*, I argue in this communication for its elevation to a full species.

Wetmore listed eight characters that differentiate *carrikeri* from other populations of *G. lawrencii*. I reexamined these characters, comparing the three adult female specimens of *carrikeri* at the USNM with one female, two male, and one unsexed *lawrencii* from Panama. The *carrikeri* specimens have somewhat paler coloration